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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,898	01/15/2002	Tadakatsu Ikenoya	027650-946	2950

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EXAMINER

MUSSER, BARBARA J

ART UNIT PAPER NUMBER

1733

DATE MAILED: 09/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/936,898	Applicant(s) IKENOYA, TADAKATSU	
	Examiner Barbara J. Musser	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rebholz(U.S. Patent 4,387,126) in view of Bengtsson et al.(U.S. Publication 2003/0205319) and Badische(DE 1222241B).

Rebholz discloses a laminate made of a paper substrate, an adhesive, an aluminum foil, a primer, a coextruded barrier layer of ethylene-methyl acrylate copolymer, and a polyolefin film.(Abstract) Ethylene-methyl acrylate copolymer and ethylene methacrylic acid copolymer are the same polymer, simply named using different conventions. A primer is a type of anchor coat, and ethylene acrylic acid, the primer used in Rebholz,(Col. 2, ll. 29-35) is a known anchor coat material. The reference does not disclose how the laminate is made, only that it can be made by means common in the art and that laminates are most easily prepared in subcombinations.(Col. 3, ll. 22-30) Bengtsson et al. discloses a conventional method of forming a laminate having aluminum foil in it is to apply the barrier layer(aluminum foil) to a carrier and then coextrude an adhesive layer to bond the carrier to the paper substrate.(paragraphs [0019], [0025], [0041], [0047]; Figure 6C) Since the stated purpose of Bengtsson et al.'s invention is to use the apparatus used to make laminates having aluminum foil to make

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laminate without aluminum foil, one in the art would understand that the apparatus of the reference was the same as an apparatus to form a laminate having aluminum foil.

The references do not disclose corona treating the aluminum foil before bonding it to the paper. Badische discloses that electric discharge treatment(corona discharge) of a metal surface increases the adhesion of a plastic film to the metal surface.(Abstract) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of Bengtsson et al. to make the laminate of Rebholz since Rebholz discloses any common method of making the laminate can be used and Bengtsson et al. discloses a common way of making a laminate containing aluminum foil particularly since Bengtsson et al. forms the laminate using subcombinations(the foil and carrier) which Rebholz discloses is the most easy way to form such laminates(Col. 3, ll. 22-30) and to corona treat the aluminum foil before bonding it to the paper via a polyolefin since this would improve adhesive of the aluminum foil to the polyolefin.(Badische; Abstract) As shown in Figure 2, the barrier layer and carrier are on a roll, i.e. were formed together as a subcombination.

Regarding claim 2, while the references are silent as to the degree of contamination of the polyolefin film, one in the art would appreciate that since this is the layer that contacts the contents of the package, it would be desirable for the layer to have no contaminants as they might contaminate the food within the package.

Regarding claim 6, the references are silent as to the length of time the barrier layer and carrier are on the roll prior to use, but one in the art would appreciate that any

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conventional length of time, dependent on the desired stockpile and possible disruptions in processing, would be used.

3. Claims 3, 4, 7-12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rebholz, Bengtsson et al., and Badische as applied to claim 1 above, and further in view of the admitted prior art.

Rebholz discloses the polyolefin film has a thickness of 1-2 mils(25-50 micrometers).(Col. 3, ll. 8) The references cited above do not disclose the polyolefin film as comprising a linear low density polyethylene with a narrow molecular weight distribution, an average density of 0.9-0.915, a peak melting point of 88-103 C, a melt flow index of 5-20, and a swelling ratio of 1.4-1.6. The admitted prior art discloses it is known to use metallocene based linear low density polyethylene in laminates for packaging. These polyethylenes have a narrow molecular weight distribution.(Pg. 3) Low density polyethylenes are conventionally described as having a density less than 0.925. Melt flow rate is a measure of the width of the molecular weight distribution, and since all metallocene polyethylenes have a narrow molecular weight distribution, they would have melt flow rates of 5-20. Since the polyethylene of the admitted prior art is intended for the same purpose as applicant's namely of protection in packaging, one in the art would appreciate that it would have the same general molecular weight range as applicant's. The melting temperature and swelling ratio are a function of the density and molecular weight distribution. Since the admitted prior art has the same density and molecular weight distribution, it would have the same melting temperature range and swelling ratio. It would have been obvious to one of ordinary skill in the art at the time

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the invention was made to use the metallocene based linear low density polyethylene of the admitted prior art as the polyolefin film of Rebholz, Bengtsson et al., and Badische since the admitted prior art discloses such films have been commonly used in packaging laminates in the past.

Regarding claims 4, 11, and 12, the references cited above do not disclose the anchor coat having ascorbic acid or vitamin E in it. The admitted prior art discloses it is known to provide ascorbic acid in conjunction with L-ascorbic acid in the adhesive layer to remove oxygen and to prevent the oxygen remover(L-ascorbic acid) from bleeding out of the adhesive layer.(Pg. 4) It would have been obvious to one of ordinary skill in the art at the time the invention was made to place ascorbic acid and L-ascorbic acid in the anchor coat since they would both remove oxygen from the packaging and prevent the oxygen remover from bleeding out of the adhesive layer.(Pg. 4)

Regarding claim 8, while the references are silent as to the degree of contamination of the polyolefin film, one in the art would appreciate that since this is the layer that contacts the contents of the package, it would be desirable for the layer to have no contaminants as they might contaminate the food within the package.

Regarding claims 6 and 14-16, the references are silent as to the length of time the barrier layer and carrier are on the roll prior to use, but one in the art would appreciate that any conventional length of time, dependent on the desired stockpile and possible disruptions in processing, would be used.

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4. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rebholz, Bengtsson et al, Badische, and the admitted prior art as applied to claims 4 and 7 above, and further in view of Coutelle et al.(U.S. Patent 5,582,638).

The references cited above do not disclose a phyllosilicate in the anchor coat. Coutelle et al. discloses phyllosilicates can act as adhesive thickeners.(Col. 1, ll. 7-15) It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a phyllosilicate in the anchor coat since this would thicken it to the proper consistency.(Col. 1, ll. 7-15)

Response to Arguments

5. Applicant's arguments filed 6/16/04 have been fully considered but they are not persuasive.

It is noted that applicant has not argued that Rebolz does not disclose applicant's final product, and therefore it is considered that applicant agrees that the reference teaches applicant's product.

Regarding applicant's argument that Bengtsson et al. does not disclose the use of aluminum foil and therefore it would not have been obvious to use the process of Bengtsson et al. for a laminate having aluminum foil, Bengtsson et al. discloses the apparatus used is the same as the apparatus used to form a laminate having aluminum as the barrier layer. Therefore, it effectively teaches using the apparatus to make a laminate having aluminum foil as the barrier layer.

Regarding applicant's argument that Bengtsson et al. does not recognize the method can provide good adhesion, the reference is not directed to the characteristics of the apparatus and therefore does not indicate the desirable features of the method. The fact that it does not indicate why the steps are performed does not mean the reference does not disclose them.

Regarding applicant's argument that since Bengtsson et al. discloses two paper layers using it with Rebolz one would have rolled up the paper core with the barrier layer, Rebolz discloses one layer is paper or film while the other is film and Bengtsson et al. discloses one layer is paper while the other is paper or film. One in the art would appreciate that using the method of Bengtsson et al. to make the laminate of Rebolz, one would try to use the same materials in the same locations. Since Rebolz only discloses one possible location for paper, one in the art would appreciate that that layer would be the layer of Bengtsson et al. which the reference only discloses as paper, i.e. the core. Since Rebolz discloses the other layer as a film and Bengtsson et al. discloses it can be a film, one in the art would appreciate that this layer would be the layer of Bengtsson et al. that could be a film, i.e. the carrier layer. This would result in applying the aluminum barrier layer to the polymer film and rolling them, as in the claims.

Regarding applicant's argument that Badische discloses corona discharge improves bonding of metals to polymers not to paper, both applicant and the references extrude a polymer film between the aluminum foil and the paper. The corona discharge improves bonding of the foil to the polymer used to bond the layers together. In neither

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reference does the aluminum foil directly contact the paper without an intervening polymer film.

Regarding applicant's argument that the admitted prior art does not disclose the specifics of the polymer used, examiner agrees it does not specifically state the claimed properties. However, it does disclose the material is a low density polyethylene, and low density polyethylene conventionally is described as having a density less than 0.925 g/cm³. It also discloses the polyethylene is made using a metallocene catalyst and metallocene catalysts are well-known to produce narrow molecular weight distributions. Melt flow rate is a measure of the width of the molecular weight distribution, and since all metallocene polyethylenes have a narrow molecular weight distribution, they would have melt flow rates of 5-20. Since the polyethylene of the admitted prior art is intended for the same purpose as applicant's namely of protection in packaging, one in the art would appreciate that it would have the same general molecular weight range as applicant's. The melting temperature and swelling ratio are a function of the density and molecular weight distribution. Since the admitted prior art has the same density and molecular weight distribution, it would have the same melting temperature range and swelling ratio.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara J. Musser whose telephone number is (571) 272-1222. The examiner can normally be reached on Monday-Thursday; alternate Fridays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571)-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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